CDM

Alternative Floodplain Management Strategies Study

Presentation to Mayor's Floodplain Task Force

Lincoln, Nebraska

October 22, 2002

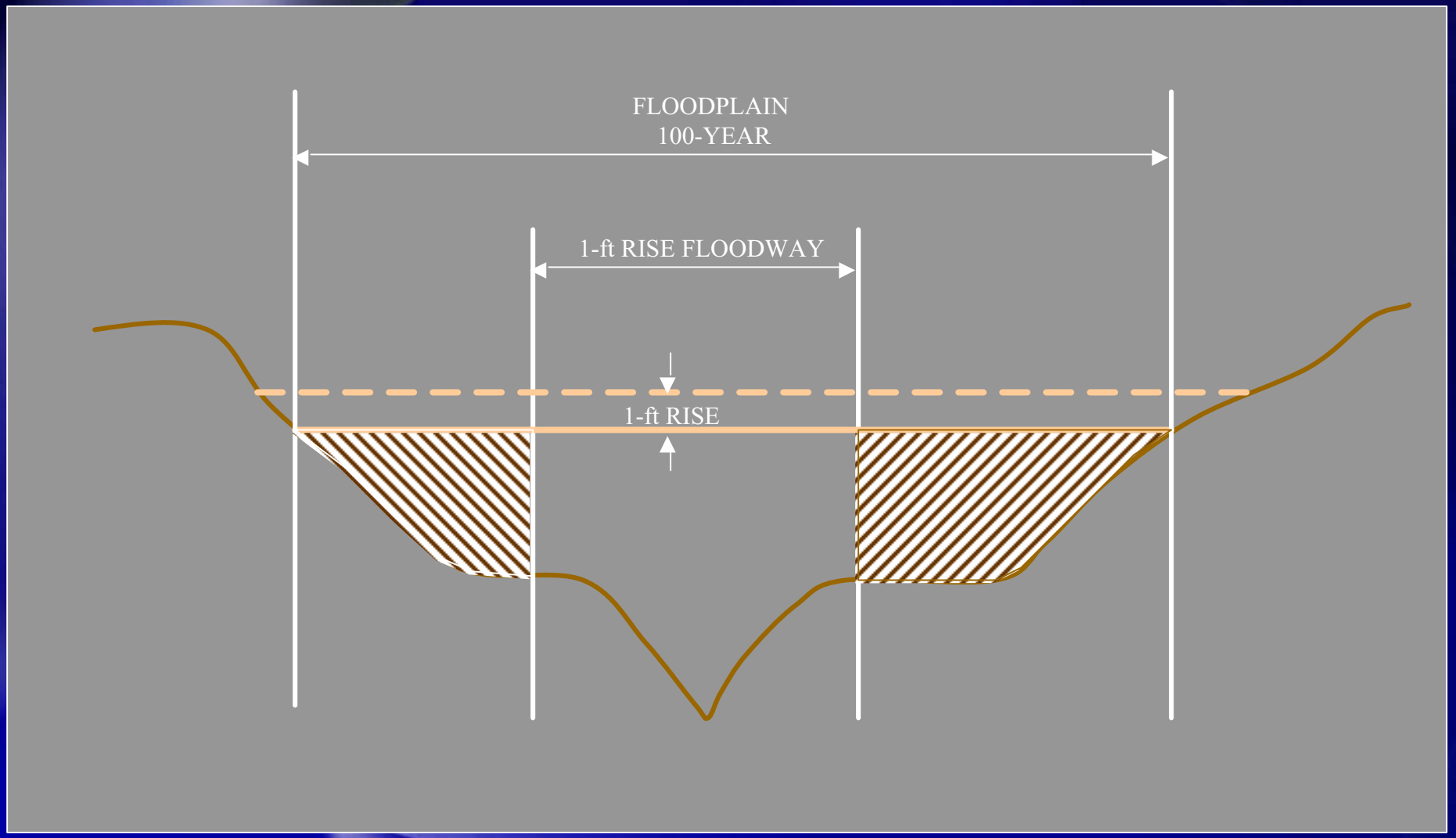
Introduction

- Project Team
- Scope of Work
  - Economic Impact of Implementing Alternative Floodplain Regulations along Dead Man's Run
  - Economic Impact of Implementing Alternative Floodplain Regulations in New Development
  - Evaluate Alternative Floodplain Regulations
- Project Schedule
  - November 5, 2002 – Final Presentation
  - November 19, 2002 – Final Report

Today's Presentation

- Economic Evaluation of Alternative Floodplain Regulations along Dead Man's Reach between 33rd & 56th
- Question & Answers
- Economic Impact of Implementing Alternative Floodplain Regulations in New Development
- Question & Answers

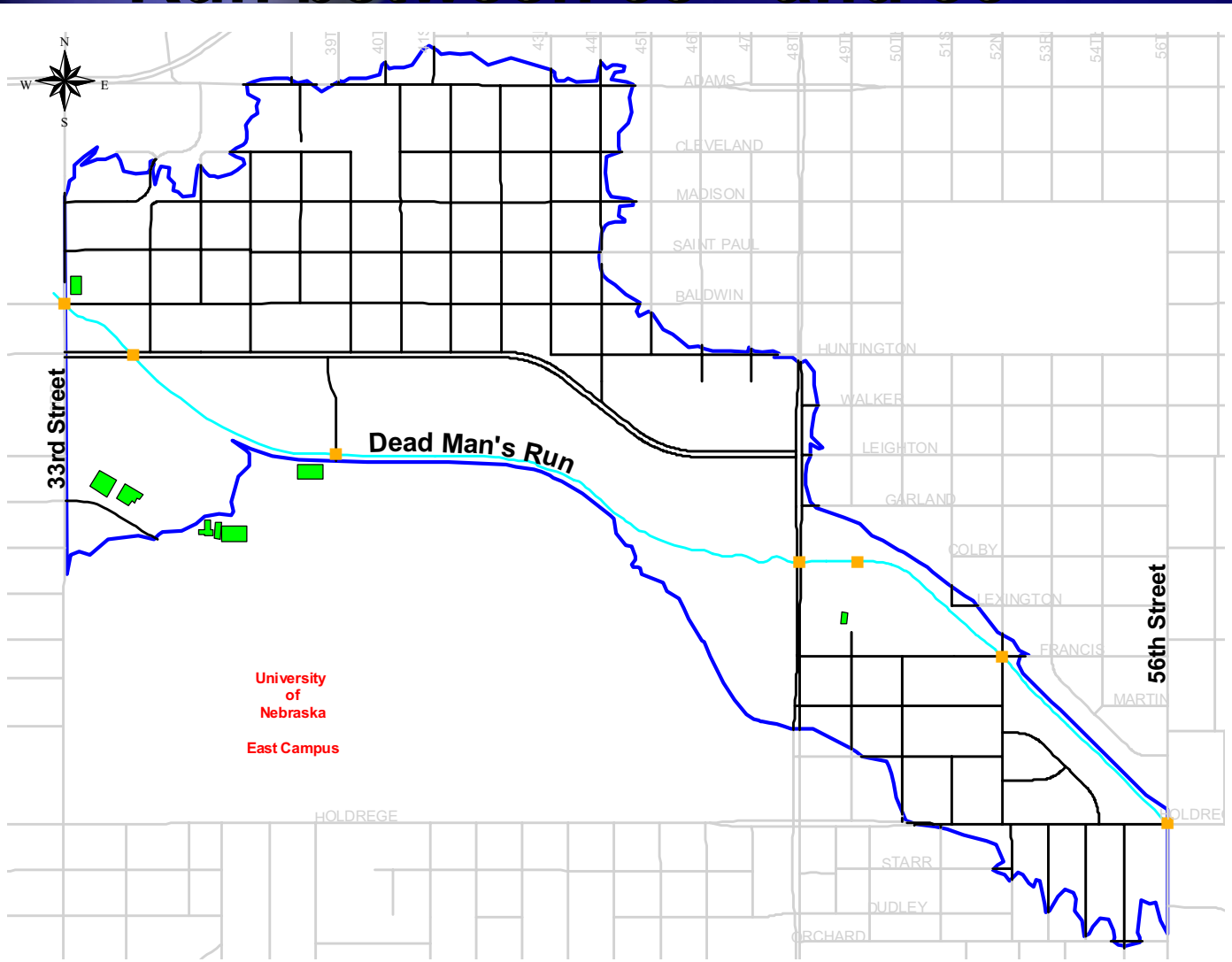
Floodplain Terminology



Economic Evaluation of Alternative Floodplain Regulations along Dead Man's Reach between 33rd & 56th

- Four Floodplain Management Scenarios
  - 1-ft Rise in Existing 100-Year Floodplain Water Surface Elevation (WSE) {existing policy}
  - ½-ft Rise in Existing 100-Year Floodplain WSE
  - No-Net Rise in Existing 100-Year Floodplain WSE
  - Compensatory Storage
- Public Infrastructure
  - Public Buildings
  - Public Access Roads
  - Stream Crossing Structures (e.g. bridges)

Public Infrastructure along Dead Man's Run between 33rd and 56th



- 8 Public Buildings
- 13.3 Miles of Public Access Streets
- 7 Stream Crossings

Public Building Flooding

Public Buildings

Road Dept. Maintenance Bldg

Huntington A

Nebr. Game & Parks Bldg 1

33rd Street

Nebr. Game & Parks Bldg 2

Ag Ware

Envir. Health & Safety Inventory

Landscape Services East

Landscape Services West

University Place Park Pool House

University of Nebraska East Campus

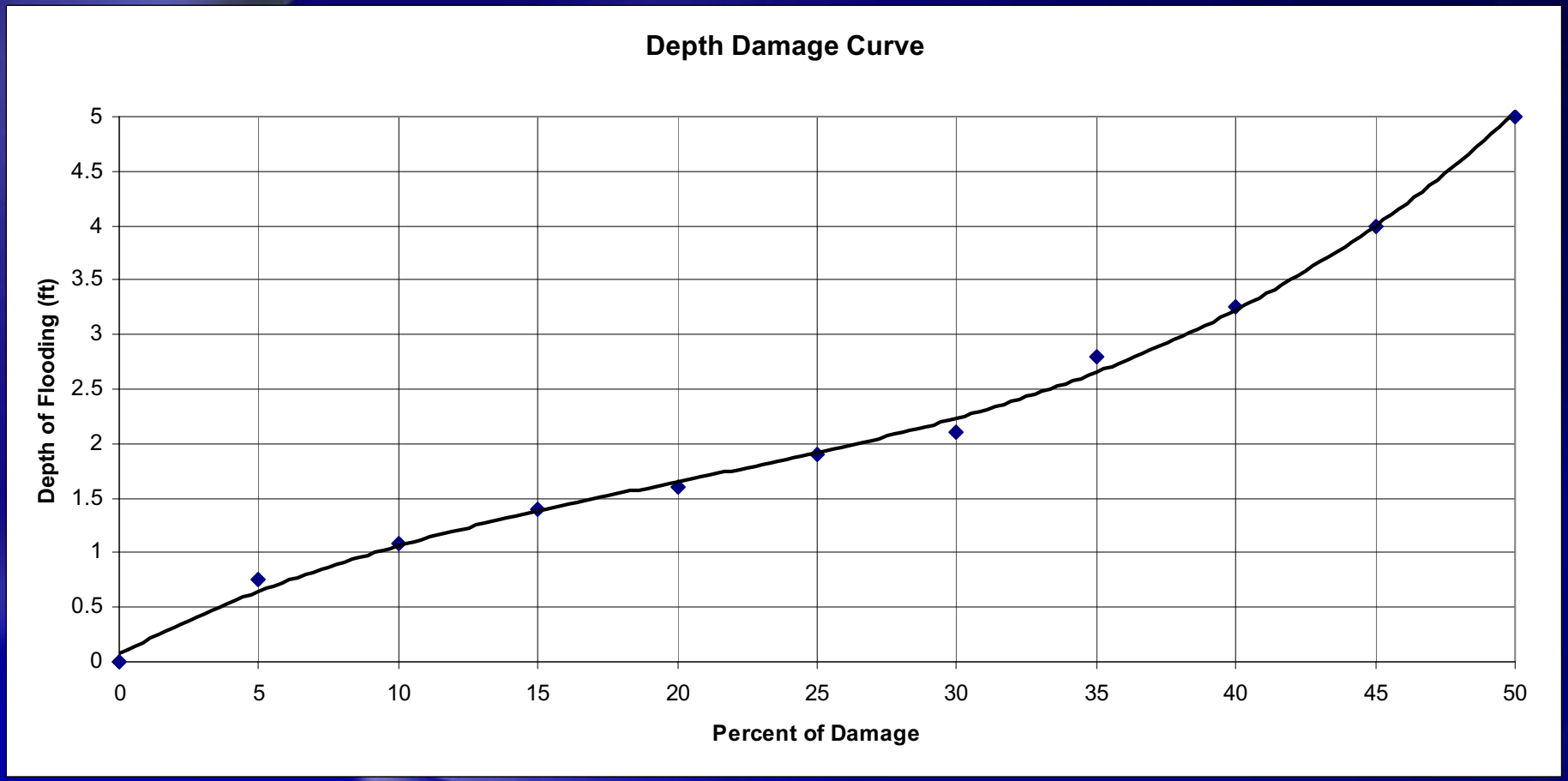
Public Building Flood Damage Evaluation

- Estimated elevation of building using GIS and City data
- Determined 100-Year water surface elevations for:
  - Existing 100-Year (No Net Rise)
  - Existing 100-Year + 0.5-ft (0.5’ Rise)
  - Existing 100-Year + 1.0-ft (1.0’ Rise)
    - Existing Policy
- Calculated depth of flooding
- Applied depth damage curve

Public Building Flooding

Building	Depth of Flooding (ft)		
	No Net Rise	0.5 ft Rise	1.0 ft Rise
Road Maintenance	-0.5	0	0.5
Nebr. Game & Parks Bldg 1	0	0.5	1
Nebr. Game & Parks Bldg 2	0	0.5	1
Landscape Services West	0	0.5	1
Landscape Services East	-2	-1.5	-1
Ag. Warehouse No. 1	-1	-0.5	0
Ag. Warehouse No. 2	-3.5	-3.0	-2.5
University Place Park Pool	-1	-0.5	0

Depth Damage Curve*



*Depth damage curve is based on Army Corps of Engineers curve used Section 22 Flood Task Force

Public Building Flooding

Building	Estimated Value	Flood Damage Values		
		No Net Rise	0.5 ft Rise	1.0 ft Rise
Road Maintenance	$345,800	$0	$0	$7,867
Nebr. Game & Parks Bldg 1	$1,260,000	$0	$28,663	$113,992
Nebr. Game & Parks Bldg 2	$962,000	$0	$21,884	$87,032
Landscape Services West	$480,816	$0	$10,938	$43,499
Landscape Services East	$594,533	$0	$0	$0
Ag. Warehouse No. 1	$1,427,025	$0	$0	$0
Ag. Warehouse No. 2	$1,415,100	$0	$0	$0
University Place Park Pool	$1,188,000	$0	$0	$0
	Total	$0	$61,490	$252,390

Public Access Street Flood Damage Evaluation

- Divided streets into 75’ segments
- Using GIS (ArcView) assigned the nearest elevation contour to each street segment
- Created lines of equal 100-Year water surface elevation from mapped floodplain
- Assigned the nearest water surface elevation to each street segment
- Calculated depth of flooding for:
  - Each 75’ Street Segment
  - Three Floodplain Management Alternatives